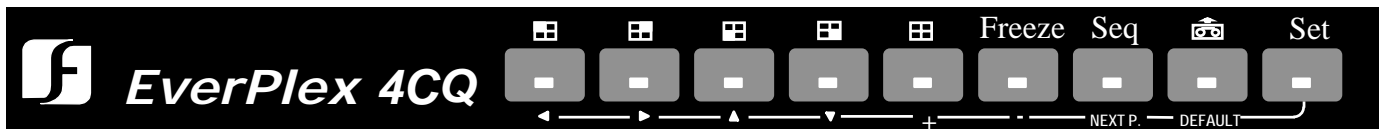


# ***EverPlex 4CQ***

## USER'S MANUAL



**Real Time Color Quad Processor**

**High Resolution, Broadcast Quality**

**Playback Zoom Function**

**RS232 Remote Control**

**Connect Up To 4 Cameras**

**Ver. 1.0**

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## Notice

This manual is presented to the users of EverPlex 4CQ by EverFocus Electronics Corp. With years of engineering researches, EverFocus has spared no effort to provide the high quality products to the worldwide users. For the policy of continual product improvement, EverFocus reserves the right to make changes to the product specifications and documentation without notice. All the components of the products, including accessories, components, and outlook, are based on the agreements if each deals to satisfy all kinds of users. Meanwhile, please be advised that every step of operation must follow the instruction of this manual to keep EverPlex 4CQ working under the best condition. Please notice that EverFocus will not be charged any claims or renewing cases resulted from inappropriate operation.

# Important Messages:

1. To prevent fire or shock hazard, do not expose this equipment to the environment of high humidity and dust. So, do not use it in an unprotected outdoor installation or any area classified as a wet area.
2. Installation environment: The temperature should be kept between  $-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$ , humidity under 90%. For safety sake, do not disseminate the unit or put it on an unstable base.
3. Ventilation: Openings in the enclosure are provided for ventilation and to ensure reliable operation of the unit and to protect it from overheating. These openings must not be blocked or covered. This unit should not be placed in a built-in installation unless proper ventilation is provided.
4. Cleanse: Unplug the unit from the outlet before cleansing. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth to clean it.
5. Overload: Do not overload outlets and extension cords as this may result in a fire or electric shock.
6. Power-cord Protection: Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
7. Object and Liquid Entry: Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.
8. Service: Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage of other hazards. Refer all servicing to qualified service personnel.

# Introduction

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EverPlex 4CQ, a real time color Quad and 4 channel auto switcher, is the best choice for multiple monitoring and recording.

The superior video quality is achieved by adopting the advance multi-media technology. The picture of Quad display is sharp and clear because Everplex 4CQ is featured with CCIR601 full resolution and 16 million colors.

## Main Features:

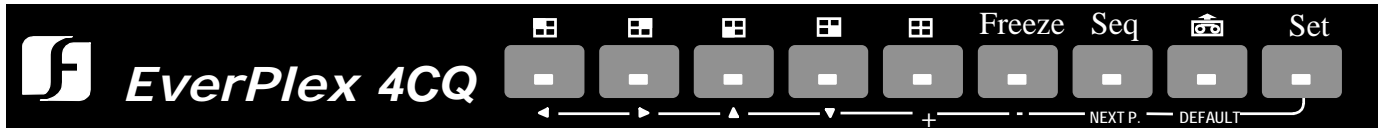
- ☐ Real-time Quad display.
- ☐ High Resolution 720 x 576 (PAL), 720 x 480 (NTSC).
- ☐ 16 million colors.
- ☐ Up to 4 camera inputs and quad display.
- ☐ Video loss detection.
- ☐ Different border colors indicate page selection.
- ☐ Independent brightness, contrast, color and tint adjustments for every channel.
- ☐ Built-in timer and and title generator.
- ☐ Alarm input with built-in buzzer.
- ☐ Programmable Quad and 4 channel auto switcher outputs.
- ☐ Playback Zoom and Freeze function.
- ☐ RS232 Remote Control.
- ☐ User-friendly front panel design.

# Specification

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<b>Video input:</b>	4 cameras + 1 VCR inputs
<b>Video output:</b>	Video output x 2, 1V p-p/75 ohm
<b>Title:</b>	Up to 6 characters
<b>Timer:</b>	Built-in real time clock
<b>Alarm input:</b>	4 alarm inputs and 1 alarm reset input
<b>Alarm output:</b>	2 Alarm Out (1 Normally Open, 1 Normally Closed)
<b>Dimension:</b>	239 x 166 x 55 mm
<b>Power source:</b>	AC 24V or DC 12V
<b>Power consumption:</b>	17W max.

# Chapter I Functional Description



## 1. Front Panel Keypads

### 1.1 Full Screen

Press any key of FULL SCREEN, the picture of the corresponding quadrant will fill the whole screen of the monitor display. Press the same key again, the quad display will come out.

### 1.2 Quad Display

Press the Quad Display, the picture of the quadrant video will fill the whole screen of the monitor display.

### 1.3 Freeze

During quad display mode, you can press FREEZE key to freeze the video on the monitor. Press this key again to de-freeze the video. If you press any Full Screen Key, there will be merely that video input de-frozen. Judging by the channel title blinking, users can be aware of freezing status.

### 1.4 Sequential Switching

Press SEQ key will enter the auto sequential switching mode, the switching sequence is programmed in SET function. It can be displayed live quad and full screen sequentially on the main monitor according to the programmed switching sequence. Press the SEQ key again to exit the auto sequential mode and stay the last screen display.

### 1.5 VCR Play Back

Press PLAY BACK key to play back the recorded video from VCR. There are two special functions implemented in the play back mode.

#### A. ZOOM function

Pressing any FULL SCREEN key during playback will zoom in the picture of the corresponding quadrant to the whole screen of the monitor display. Press the same key again to stop the zoom function and go back to the normal playback video.

#### B. FREEZE function

Press the FREEZE key during zoom mode to freeze the current frame. Pressing this key again to de-freeze the video.

# 1.6 Set

Press the SET key to set time/date, title on/off, picture, camera titles, switching sequence, switching time period, alarm sensor type, alarm hold time, and the alarm/video loss records displaying.

There are 6 pages in the setting mode :

- Page 1 : Set Time and Date.  
Turn ON/OFF the time, date, title display for Quad or Full screen display.
- Page 2: Display the alarm records.
- Page 3: Set the brightness, contrast, color, and tint for each camera.
- Page 4: Change the title name of each camera.
- Page 5: Program the sequential switching sequence and switching hold time. Set the screen refresh mode.
- Page 6: Set the alarm sensor type, alarm hold time, buzzer on/off and Security.

The following keys are re-defined in setting mode (Definition under the keypad).



Press “NEXT P.” to go to the following pages for setting.



Press the “DEFAULT” to reset the setting.



Press the +/- keys to set the value.



Press the cursor key to select the item to set.



1.6.1 Date, Time setting, and OSD display on/off setting

DATE:	2000-01-01
TIME:	01:01:01
QUAD SCREEN	DATE: ON
QUAD SCREEN	TIME: ON
QUAD SCREEN	TITLE: ON
FULL SCREEN	DATE: ON
FULL SCREEN	TIME: ON
FULL SCREEN	TITLE: ON
VERSION N.NN	

DATE data format is CCYY-MM-DD, where

- CC : Century code from 19 to 20
- YY : Year data from 00 to 99
- MM : Month data from 01 to 12
- DD : Day data from 01 to 31

TIME data format is HH-MM-SS, where

- HH : Hour data from 00 to 23
- MM : Minute data from 00 to 59
- SS : Second data from 00 to 59

VERSION shows current firmware version

1.6.2 Alarm Records

ALARM	RECORDS
C A DATE	TIME
3 S 1997-03-24	10:00:00

The Alarm Record format is : (C A DATE TIME)

- C : the channel number from 1 to 4 which invokes the alarm
- A : Alarm type, 'S' - alarm from sensor input, 'V' - alarm from video loss detection
- DATE, TIME : the date and time when the alarm happens

1.6.3 Set the Brightness, Contrast, Color, Tint for each channel

Video Display Set Up			
BRIGHT:	32	BRIGHT:	32
CONTRAST:	27	CONTRAST:	27
COLOR:	31	COLOR:	31
TINT:	32	TINT:	32
BRIGHT:	32	BRIGHT:	32
CONTRAST:	27	CONTRAST:	27
COLOR:	31	COLOR:	31
TINT:	32	TINT:	32

1.6.4 Set the camera titles

Camera Title Setup	
CH1: CH1	
CH2:	CH2
CH3: CH3	
CH4:	CH4

1.6.5 Set sequential switching parameters

Sequential Switch Menu	
CH1:	ON
CH2:	ON
CH3:	ON
CH4:	ON
QUAD:	ON
SWITCH TIME	: 03 SEC
REFRESH MODE	: FIELD

CH1 - CH4 to turn each channel ON or OFF in the sequential switching  
QUAD to turn QUAD display ON or OFF in the sequential switching

SWITCH TIME : The time period to switch for each switching item  
REFRESH MODE : To set the screen refresh by 'FRAME' or by 'FIELD'.

## 1.6.6 Set alarm parameters

### Alarm Setting Menu

CH SENSOR

1 **N.O.**

2 **N.O.**

3 **N.O.**

4 **N.O.**

ALARM RESET IN : **N.O.**

BUZZER : **ON**

KEY LOCK : **OFF**

ALARM HOLD TIME: **05 SEC**

CH1 - CH4 to set the sensor input type as

'N.O.' : normally open, closed will invoke alarm

'N.C.' : normally closed, open will invoke alarm

'closed' means to short the alarm signal line to the ground

ALARM RESET IN : To set alarm reset input type as 'N.O.' or 'N.C.'

BUZZER : Turn the buzzer ON/OFF

KEY LOCK : Turn the KEY LOCK function ON or OFF when key lock is turned on

1. All keys except SET key are locked

2. KEY LOCK stays ON until we turn it OFF by pressing the SET key

ALARM HOLD TIME : It is the time period of buzz if the buzzer is on.

# Chapter II Back Panel Connection



## 1. BNC Connectors

### 1.1 MONITOR

Connect this output port to the main monitor.

### 1.2 VCR OUT

Connect this output port to the VIDEO IN of VCR. The quad video output of live video is obtained from this connector.

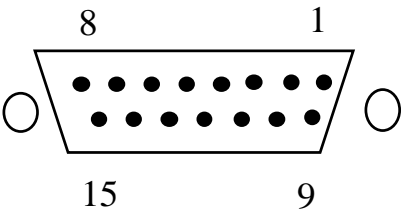
### 1.3 VCR IN

Connect this input port to the VIDEO OUT of VCR.

### 1.4 VIDEO INPUT

Connect camera video out to this connector by a 75 ohm coaxial cable.

## 2. Alarm Connectors (DB-15)

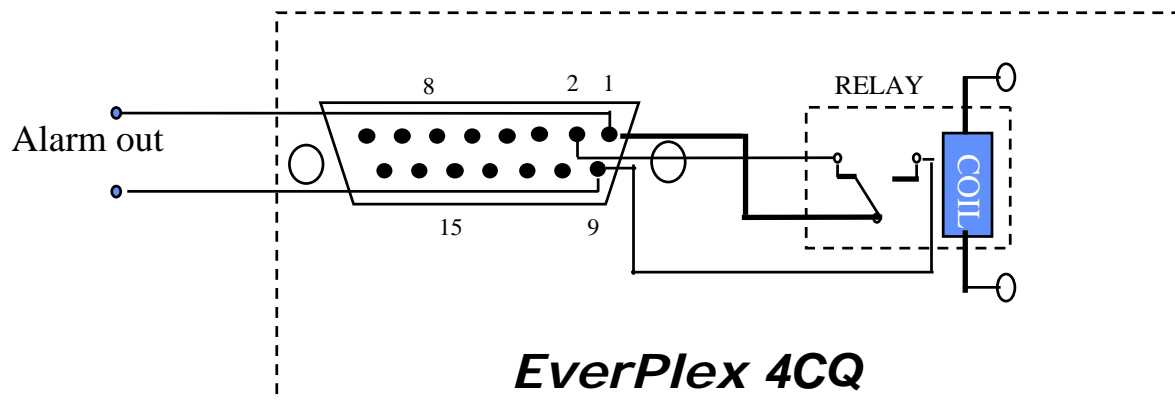


PIN #	NAME	PIN #	NAME
1	Alarm Out Common contact	9	Alarm Out Normally Open
2	Alarm Out Normally Closed	10	TXD *
3	Alarm Reset	11	RXD *
4	GROUND		
5	ALARM IN 4		
6	ALARM IN 3		
7	ALARM IN 2		
8	ALARM IN 1		

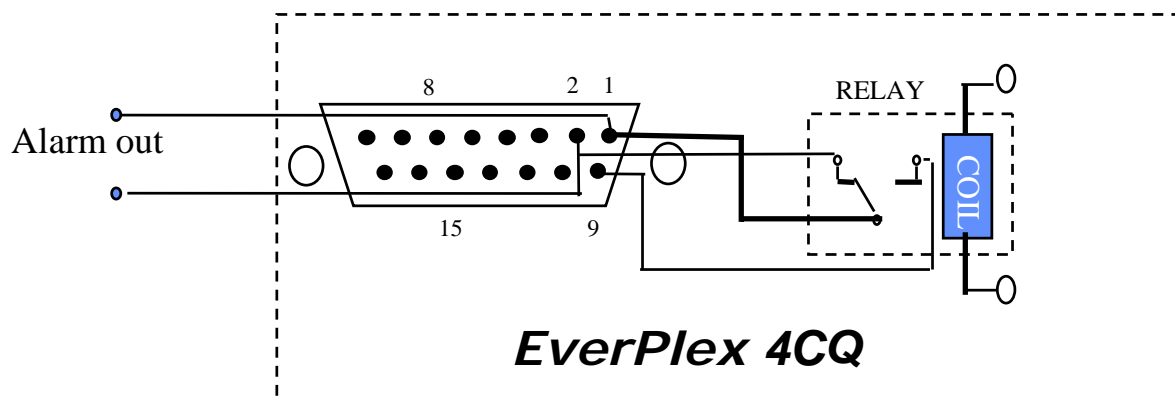
## 2.1 Alarm out

There are two ways to do the alarm out connection:

### 2.1.1 Normally Open Connection (use pin # 1 and # 9)

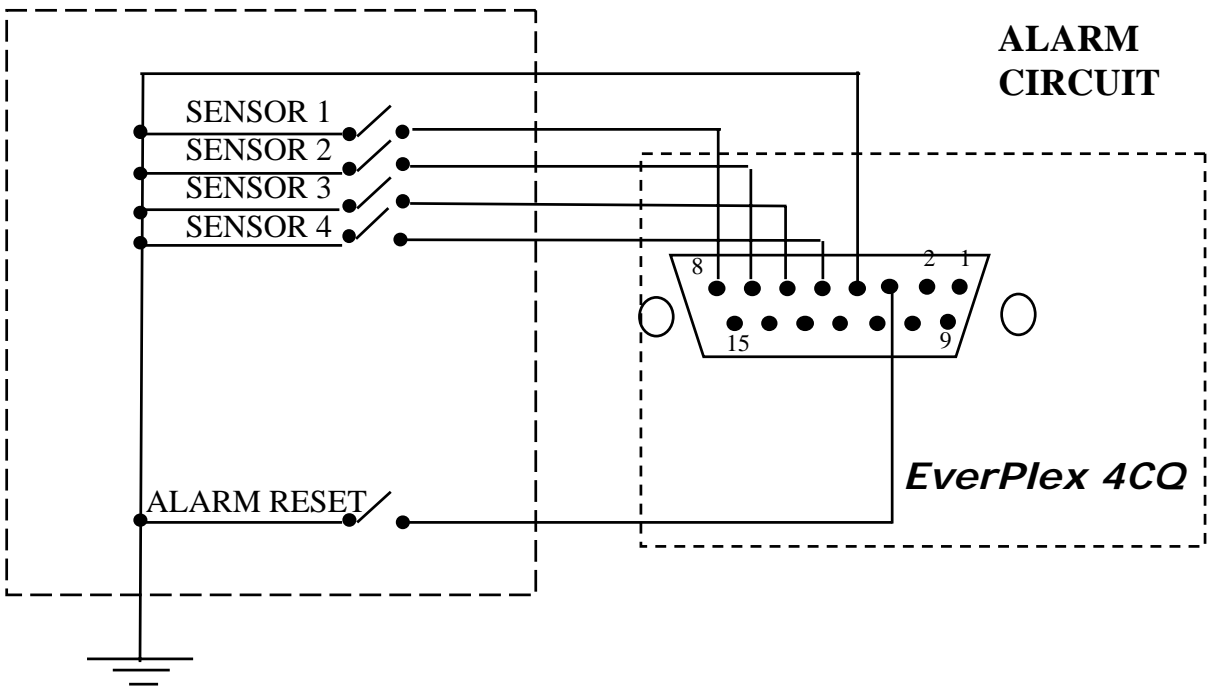


### 2.1.2 Normally Closed Connection (use pin # 1 and # 2)



## 2.2 Alarm in and Alarm reset

There are 4 alarm sensors in for 4 channels and 1 alarm reset in, all these 5 alarm inputs can be set to Normally Open or Normally Closed by user and the setting menu.



### 2.2.1 ALARM IN

There are four alarm inputs for each camera.

When any alarm signal happens, the machine will do the following:

1. Switch to the full screen display of this channel.
2. Blink the channel ID with alarm message.
3. Turn on the buzzer if the buzzer setting is on.

When many alarms come up in the alarming status, the monitor screen will switch to quad display to show all the channels which have alarm in.

The **ALARM IN** can be selected as normally open input or normally closed input:

**Normally Open :** (N.O.) If the alarm input is selected as Normally Open input, then the input is opened normally and shorted to the ground means an alarm happens.

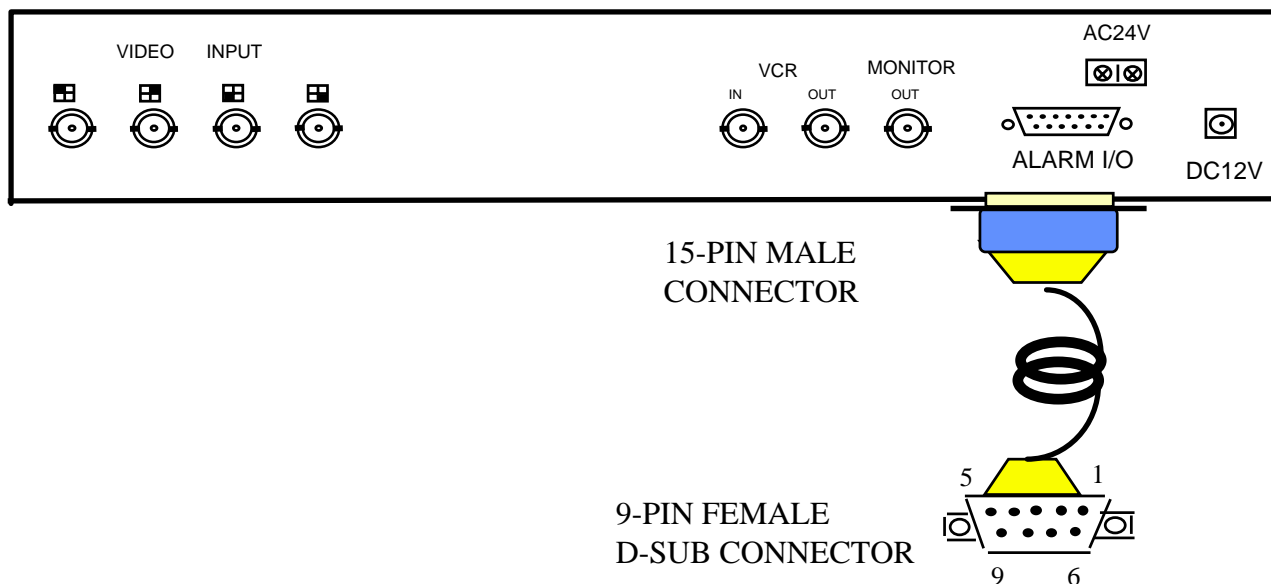
**Normally Closed :** (N.C.) If the alarm input is selected as Normally Closed input, then the input is shorted to the ground normally and opened means an alarm happens.

### 2.2.2 ALARM RESET

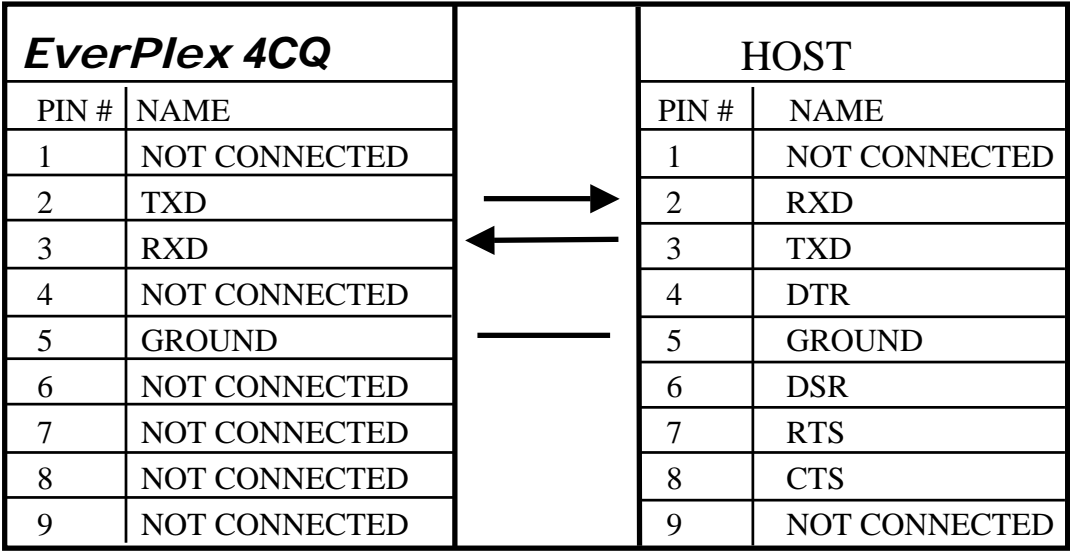
External alarm reset signal is used to reset the alarm and turn the buzzer off. If it is selected as Normally Closed input, then the input is shorted to the ground normally. Furthermore, it is opened when an alarm reset signal comes in. If it is selected as Normally Open input, then the input is opened normally. Also it is shorted to the ground when an alarm reset signal comes in.

## 3. RS232 Connection

EverPlex 4CQ may be controlled by a computer or a terminal via the standard 9 pin D-sub/RS232 connector, which is connected to the alarm I/O by a cable with 15 pin and 9 pin connectors. The Processor will send the alarm message to the host via RS232 when any alarm occurs.



3.1. The pin assignment of the 9 pin D-SUB connector









3.2. Transmission Setting

The transmission setting in the EverPlex 4CQ is 9600 baud rate, 1 start bit, 1 stop bit and no parity.

3.3. Remote control protocol

A computer or a terminal can be used to control the EverPlex 4CQ by sending two-character ASCII command through RS232 connector. These ASCII commands are started with 'K' or 'k'. There are 9 ASCII commands mapped to the 9 keypads in the front panel and 1 additional commands to reset the EverPlex 4CQ to the QUAD display state. These 10 ASCII commands are show as below:

<i>EverPlex 4CQ</i> Remote Control Command Table		
ASCII CODE	FUNCTION	Keypad in front panel
K1	Full Screen 1	
K2	Full Screen 2	
K3	Full Screen 3	
K4	Full Screen 4	
K5	Quad Display	
K6	Freeze	Freeze
K7	Sequential Switching	Seq
K8	VCR Play Back	
K9	SET	Set
K0	Reset the Processor to Quad display	None



### 3.4. Alarm message sent via RS232

The EverPlex 4CQ will send out alarm message thru RS232 when any alarm occurs, the alarm message format are three ASCII characters followed carriage return and line feed, they are

The first character is the leading code , '!''

The second character is the alarm type, 'S' indicates a sensor alarm, 'V' indicates a video loss

The third character is the channel number having the alarm, '1' ~ '4'

The fourth byte is the carriage return code, 0DH

The fifth byte is the line feed code, 0AH

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